

Abilities, Disabilities and Possibilities: A qualitative study exploring the academic and social experiences of gifted and talented students who have co-occurring learning disabilities

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Abstract

It is estimated that 1-2.5% of the UK school population are gifted and talented students who have co-occurring learning disabilities (National Association for Gifted Children, 2001). Many authors have published recommendations for helping to support this unique group. However, far fewer have supported these with empirical research. The current study used 1:1 interviews with secondary school and university students (N=18) to explore their academic and social experiences. As well as being identified as gifted and talented, the students also had a diagnosis of dyslexia, dyspraxia or Autism Spectrum Disorder (ASD). A semi-structured interview schedule was used to ask students about their extra-curricular activities, friendships, bullying, support and future ambitions. Interpretative Phenomenological Analysis of interview transcripts revealed eight themes: everyday life, extra activities, social development, support, identification, underachievement, mental health issues and suggestions. Students were capable of making friends and mixing with peers but experienced problems with bullying and social isolation. Teachers, mentors, family and technology were found to be helpful, however, support could be inconsistent and parents themselves may benefit from support groups. Finally, some commonly used strategies to help these students were collated and could be useful to help others who share the same or similar experiences.

Keywords: gifted and talented education, learning disabilities, dyslexia, dyspraxia, Autism Spectrum Disorder (ASD), higher education, family, peers, support, strategies

Literature review

Definitions

Defining this group of students is a complex and controversial task hotly debated amongst psychologists, teachers and higher education staff. As Vaughn (1989, p. 123) summarised: *'no two populations have suffered from more definitional problems than learning disabled and gifted'*. Students in this unique group possess both high abilities in one or more areas and co-occurring learning disabilities such as dyslexia, dyspraxia and ASD (Montgomery, 2003; Morrison and Rizza, 2007). Students in this unique group often risk being defined as average due to their high achievement in some areas and poor performance in others (McKenzie, 2010). Moreover, it is difficult to distinguish between which experiences are affected by their gifted and talented status and which are affected by their learning disability (Flanagan, Alfonson and Mascolo, 2011).

Prevalence

From 2002–2007, a government-funded initiative known as the National Academy of Gifted and Talented Youth (NAGTY) was set up at the University of Warwick, UK to encourage gifted and talented students to excel (Frost, 2005). Membership of NAGTY in the UK was awarded to the top 5% of students in schools. Given that approximately 20% of gifted and talented students also have a learning disability (Ziemann, 2009), it is accepted that potentially 1 - 2.5% of school students fall into both groups. Membership of one or both groups is not fixed; it is possible for students to move in and out of their gifted and talented 'status' and indeed, to gain and lose their learning disability 'status'. Missed identification and misidentification also complicate matters so it may be that the number of students in both groups is higher (Baum and Olenchak, 2002).

Who are the 'gifted and talented' and what do we mean by 'high ability'?

It is very difficult to define high performance in an area and there is not always agreement as to which areas count. The areas which can be included are broad and range from more traditional subjects such as Maths and English to more practical/applied subjects such as Sport or Drama. Giftedness itself has been conceptualised as being above average ability, exhibiting high levels of task commitment and high levels of creativity (Davidson, 2012; Renzulli, 1975). Students considered to be gifted and talented tend to have an unusual imagination (Song and Porath, 2011), a superior vocabulary (Siegel, Moore, Mann, & Wilson, 2010) and good problem-solving skills (Kuo, Maker, Su, and Hu, 2010). Giftedness has been assessed in a multitude of ways: through the Checklist of Creative Positives (Torrance, 1977), Wechsler Intelligence Scale for Children – Revised Edition (Waldron and Saphire, 1990) and the Scales for Rating the Behavioural Characteristics of Superior Students – Revised (Renzulli, Smith, and White *et al.*, 1997).

Academic interest in gifted and talented students grew in the 1980s due to the contributions of three distinguished researchers: Howard Gardner, Abraham Tannenbaum and Francoys Gagne. Gardner (1985) challenged the previous notion that intelligence could be determined by IQ alone. He developed his Theory of Multiple Intelligences consisting of eight different areas of ability. These were: linguistic, musical, logical-mathematical, spatial, body-kinaesthetic, interpersonal, intrapersonal and naturalistic. On the other hand, Tannenbaum (1983) had developed his psychosocial definition of giftedness explaining how different factors interact to produce ability. He believed that general ability, special ability, environmental and chance factors all contributed. Similarly, Gagne's (1985) Differentiated Model of Giftedness and Talent stated that environmental factors and other people could help students move beyond having high potential to having high performance. These theories about giftedness have shaped curriculum strategies which can not only benefit gifted and talented students, but all students with abilities in a number of domains rather than a specific one (Subotnik, Olszewski-Kubilius, and Worrell, 2011).

Learning disabilities and conceptual differences

Students with learning disabilities are an under-represented group within gifted and talented education, perhaps because they possess traits atypical of giftedness, which can cause confusion for those who know little about the identities of those who also have learning disabilities. Students with learning disabilities may have school-task avoidance, low self-esteem, short-term memory deficits and distraction problems (Wong, 2011).

Dyslexia

Dyslexia was first posited as ‘unexpected reading difficulties’ in ‘A Case of Congenital Word Blindness’ published in the *British Medical Journal* (Morgan, 1896). It is a neurodevelopmental disorder characterised by slow and inaccurate reading (Hoeft, Hernandez, and McMillon *et al.*, 2006), auditory memory problems (Nelson and Warrington, 1980), visual tracking difficulties (Sela, 2012) and poor handwriting (Connelly, Campbell, and MacLean *et al.*, 2006), although this is by no means an exhaustive list. As with many disorders and conditions, the symptoms can vary from person to person. One-to-one tuition to overcome the issue with classroom/lecture pace (Kirwan and Leather, 2011), speech-to-text software to help with essay-writing (Gregg, 2012) and hand-held spellcheckers to aid homework (Brunswick, 2012) are sometimes offered in secondary schools and universities. There are two main types of developmental dyslexia. Phonological dyslexia involves problems with decoding speech sounds (Brady, 1997). For instance, ‘bat’ may be sounded out as ‘pat’. Surface dyslexia is distinct from phonological dyslexia, as it is associated with problems with decoding words visually. For example, words such as ‘ice’ would cause problems because the ‘c’ is typically read as the ‘c’ in ‘cat’, not like the ‘s’ in ‘sat’.

Dyspraxia

Dyspraxia is ‘marked impairment in the development of motor co-ordination only if this impairment significantly interferes with academic achievement or activities of daily living’ (APA, 1994, p. 53). It affects up to 10% of the population, of which 2% are severely affected (Gibbs, Appleton, and Appleton, 2007). Dyspraxia affects everyday skills such as walking, driving and organisation of thought (Colley, Biggs, and Kirby, 2006; Peters and Henderson, 2008). The difficulties associated with organisation of thought may cause problems when structuring essays or in personal organisation (Price, 2006). Students with dyspraxia may not enjoy physical education if they have problems with hand-eye co-ordination. They may fear that others may become more aware of their awkward body movements (Boon, 2010). Young people, in particular, may be stigmatised for having dyspraxia and are at risk of peer bullying (Plummer, 2011). They may also find note-taking difficult, which may worsen at university due to the pace of lectures (Anderson and Onens, 2012). The higher expectations of secondary school and university can leave students with dyspraxia feeling overwhelmed (MacIntyre, 2012). They may also avoid reading aloud for fear of not being able to articulate words as well as others. Therefore, similarly to ADHD or ASD, these language impairments can make children with dyspraxia appear less sociable, which can affect their ability to make friends (Reffin, 2011).

Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD) is a lifelong, developmental disability characterised by social and communicative deficits (Shea and Mesibov, 2005) which vary widely from person to person. Over 700,000 people in the UK have been diagnosed with ASD (Baird, Siminoff, and Pickles *et al.*, 2006). They may have profound difficulties if they are not sufficiently supported (Rosenblatt, 2008). A diagnosis of ASD requires characteristics from each of the triad of impairments. The first of the triad is social communication which commonly refers to delayed language development (Mitchell, Brian, and Zwaigenbaum *et al.*, 2006). The second of the triad is social interaction, which includes a pragmatic lack of theory of mind – the inability to understand others’ mental representations (Baron-Cohen and Wheelwright, 2004). The third and final impairment is in the area of imagination and flexibility of thought. If there is unexpected change, this can be met with distress (Ozsivadjian, Knott, and Magiati, 2012). Therefore, people with ASD tend to engage in rigid and repetitive behaviours. The autistic spectrum includes classic autism (Kanner, 1943) and Asperger’s syndrome. People with Asperger’s syndrome typically have milder social deficits (Ghaziuddin, 2005) and do not have delayed language although problems with understanding irony and figures of speech such as ‘You are driving me up the wall!’ may exist. Weaker social skills and the use of literal language are also behaviours exhibited by gifted children, which can cause problems when trying to highlight those who also have learning disabilities (Burger-Weltmeijer, Minnaert, and Van Houten-Van den Bosch, 2011).

Previous research

Assouline, Foley-Nicpon, and Whiteman (2010) carried out a quantitative study with 14 gifted and talented students with co-occurring specific learning disabilities. Students, parents and teachers were given the Behaviour Assessment System for Children (BASC-2, Reynolds and Kamphaus, 2004) and the Piers-Harris Children’s Self-Concept Scale (PH-2, Piers and Herzberg, 2002). The BASC-2 is a survey which helps determine whether the child is ‘at risk’. The PH-2 includes scores relating to behavioural

adjustment, freedom from anxiety, popularity and happiness. The results found that some students had displayed unusual behaviour, hyperactivity and aggression. Students reported being generally positive about their relationships and environments, however, they had a lower reported self-concept than would be expected for students who are gifted and talented without a learning disability. Baumeister (1999) defines self-concept as 'the individual's belief about himself or herself, including the person's attributes and who and what the self is'. This study is important for showing us that gifted and talented students with co-occurring learning disabilities need psychosocial support to encourage happiness and high self-esteem. A key strength of this study is the use of multiple informants to help substantiate the student's views. However, a limitation of this study is that the experiences were not compared with students with different learning disabilities, such as ASD.

Reis, McGuire and Neu (2000) interviewed 12 gifted and talented college students who also had co-occurring specific learning disabilities and found three themes. The first theme was strategies used. The second theme was that the students were extremely hardworking. The third theme was that many students felt uncomfortable asking for extra time in exams as they felt it was cheating the system or admitting that they needed help. The interviews showed that the students valued mental health support such as counselling and also placed great emphasis on the need for increased teacher awareness, admitting to actively choosing teachers that they would work well with. A strength of this study is that students were directly asked about strategies that they felt helped them cope, which can be used to further support other students in a similar situation. Also, it had a respectable sample size for a qualitative study. However, a limitation is that students were only asked about what they felt had helped them; they were not asked about other aspects such as the impact on future ambitions.

Nicpon, Doobay, and Assouline (2010) administered the BASC-2 to 54 gifted and talented students with ASD and also gave versions to their parents and teachers. Students had higher scores on the Atypicality, Attention Problems, Depression, Hyperactivity, Withdrawal, Activities of Daily Living, Adaptability and Social Skills sub-scales than would be expected in typically developing children. Parent and teacher reports were clinically elevated whereas students' self-reported scores were lower. While the use of parent report was helpful in gaining this information, it may be insightful to interview the students themselves to ask about other aspects of their life such as their ambitions. In addition, it may be helpful to ask students about access to services such as mentoring schemes.

Limitations of previous research

The above discussion of the limited research highlights that the field is still in need of qualitative studies. Issues such as widening participation in higher education (ensuring those with real potential have the opportunity to progress in higher education, regardless of background) and calls for better identification of learning disabilities are growing. However, there is still little consensus about the support services which should be provided in schools and universities. Clarity can be achieved through conducting research which asks students about services which will help them realise their potential and cope with their learning disability (Nielsen, 2002).

There is a need for investigations using qualitative, phenomenological analysis, preferably by somebody with a first-hand understanding of the area (Giorgi and Giorgi, 2008). Furthermore, it has been suggested that unexplored questions such as 'Do gifted and talented students with co-occurring learning disabilities have unique emotional or behavioural issues?' need addressing (Al-Hroub, 2011). Few studies have used semi-structured interviews to explore such students' experiences (Cooper, Ness and Smith, 2004), which motivated the researcher to design a study to address this.

In order to overcome the above issues, a study was designed to find out about a broad range of students' academic and social experiences. Gifted and talented students with different learning disabilities were recruited to allow similarities and differences to be ascertained. In addition, both males and females as well as both secondary school students and university students were recruited.

Research questions

The research question was two-fold: firstly, do gifted and talented students with co-occurring learning disabilities have unique academic and social experiences? Secondly, what are the similarities and differences between students with a diagnosis of dyslexia, dyspraxia and ASD?

A further four sub-research questions were developed:

1. Do gifted and talented students with co-occurring learning disabilities take part in a variety of extra activities e.g. masterclasses?
2. How do gifted and talented students with co-occurring learning disabilities mix with their peers? (with specific reference to friends and bullying).
3. Do gifted and talented students with co-occurring learning disabilities feel socially supported? (by teachers, mentors, tutors, family, for example).
4. What future ambitions do gifted and talented students with co-occurring learning disabilities wish to fulfil, and how are they affected by their high abilities and learning disabilities?

Method

Design

Semi-structured interviews were selected as the most appropriate research method for this study due to the interest in the lived experiences of gifted and talented students with co-occurring learning disabilities. Qualitative investigations in the area of gifted and talented education are not hugely common, but are necessary to further the understanding of this unique group (Cooper, Ness and Smith, 2004).

It has also been suggested that the researcher should have some first-hand experience or knowledge of the area (Giorgi and Giorgi, 2008). It is assumed that somebody who has knowledge of the area will have the ability to build rapport in an interview as well as genuinely empathize and understand some of the issues which may arise. The researcher was identified as a gifted and talented student at school and was previously a member of the National Academy of Gifted and Talented Youth (NAGTY). The researcher was mindful that this personal experience would not mirror the students' diverse experiences, however, it was helpful to enable rapport, empathy and understanding, as stated previously.

Eligibility criteria

Three eligibility criterion had to be met for students to be included in the study. Firstly, students must have been included on the school's gifted and talented register. Eligibility for the gifted and talented register differs between schools, however, generally it is ascertained if a student achieved 120+ on the Cognitive Ability Test (CAT) score or more commonly, following teacher nominations for showing exceptional ability in one or more subjects. Subjects were not restricted to more 'traditional' subjects such as maths and English but could include other more practical/applied subjects such as sport or drama, for instance. While there are bound to be some differences in the ways in which students were recruited to their individual school's gifted and talented register, a strength was that the researcher recruited via the schools' gifted and talented co-ordinators rather than just asking students to self-select. This was beneficial as problems may have arisen if students had to 'self-assess' their gifted and talented status. As there are no gifted and talented registers in UK universities, all university students interviewed supplied details of their high ability, including membership of the gifted and talented register whilst at school. Secondly, students must have been formally diagnosed with dyslexia, dyspraxia or ASD by an educational psychologist or medical professional, which all students confirmed that they had. Thirdly and finally, students had to be able to understand and respond in English, as all interviews would be carried out in English.

Recruitment

18 students were recruited from secondary schools and universities in Cambridgeshire, Hertfordshire and Bedfordshire. A target sample size of between 10-15 had been determined based on similar studies found during the literature review stage and given the time restraint of 10 months (length of the researcher's Masters degree). The gifted and talented co-ordinator of secondary schools and the disabilities teams within universities were contacted by e-mail. An information sheet was attached to explain the details of the study to students. In addition, snowball sampling was used to recruit further students through word of mouth. For example, in the school setting, students were able to suggest others who shared their unique experience of being gifted and talented with a co-occurring learning disability. They did this by letting the gifted and talented co-ordinator as well as the researcher know and it was particularly positive that they seemed very keen to also get their voices heard. To ensure inclusivity, local organisations such as The National Autistic Society and Pinpoint Cambridgeshire were contacted to request whether they would post information on their websites, which they kindly did.

Students' socio-demographic information

Table 1: Students' socio-demographic information

Socio-demographic question	Students' information
Education	12 UK university students (consisting of a mix of both undergraduates and postgraduates) 6 secondary school students
Gender	11 male 7 female
Ethnic origin	14 white British 1 white Polish 3 mixed heritage
Age	17-31 years (M=21 years)
Learning disability	8 dyslexia 3 dyspraxia 2 co-occurring dyslexia and dyspraxia 4 Autism Spectrum Disorder (2 specifically Asperger's syndrome)
Area(s) of high ability	Drama, languages, mathematics, social sciences

Semi-structured interview schedule

The interview schedule was semi-structured to allow flexibility in exploring unforeseen topics (Smith, 1995). Questions were open-ended and non-directive (Willig, 2008). The interview schedule comprised six demographic questions relating to the students' education, gender, ethnic origin, age, learning disability and area(s) of high ability. A further twelve questions followed about extra activities (e.g. 'At your school/university, have you ever taken part in any extra-curricular activities?'), friendships and bullying (e.g. 'Have you ever been bullied due to being of high ability or for your learning disability?'), support (e.g. 'In what ways do your family support you?') and future ambitions (e.g. 'What are your ambitions for life beyond school/university?').

Ethical Issues

The University of Cambridge Psychology Ethics Committee gave ethical approval for the study to be carried out. When students signed the consent form, they gave their informed consent to be interviewed and for it to be recorded. The consent form explained that students were free to withdraw from the study at any time, without having to give a reason. If the child was below 16, a parent consent form was also administered to obtain consent. Throughout the interview, a conscious effort was made by the researcher to listen carefully and to be non-judgemental, acknowledging that some topics of discussion were sensitive and personal and could have been difficult to answer. Following the interview, a debrief sheet was administered which included the researcher's contact details and external organisations' helpline numbers, in case the interview had caused any concerns. In the interview transcripts, students' names were replaced with pseudonyms (e.g. L1, L2) and other names were replaced with this character ('_'), in the interest of anonymity.

Procedure

The interviews were conducted in secondary schools, universities and students' homes in Cambridgeshire, Hertfordshire and Bedfordshire between October 2012 and April 2013. Skype interviews were carried out at the request of three students, to make it easier for them to take part. Before the interview, the study was explained verbally and students were given a consent form. When the student had given consent and had no further questions, the digital voice recorder was switched on and the interview began. After the interview, a debrief sheet was administered. Finally, students were thanked for their time and it was reiterated that the researchers could be contacted if the student had any queries or wished to withdraw. Interviews lasted between 20 – 60 minutes. The students were not reimbursed financially; however, many students asked to receive details of the overall results, which they did.

Qualitative analysis

Interpretative Phenomenological Analysis (IPA) involves systematic and detailed analysis of individuals' accounts (Flowers, Davis, and Larkin *et al.*, 2011; Smith, 2011). IPA was chosen over other methods such as conversation and discourse analysis, as finding broader themes was of focus rather than linguistic content. The idiographic nature of the overall research question, recognition that this area had been under-researched and small sample size also contributed to this selection. IPA has been well-established in learning disabilities research (Jones, 2014), which indicated that it was appropriate.

To successfully complete IPA, a number of cyclical steps were followed. Firstly, annotations were made on the text (Collins and O'Cathain, 2003). Next, subordinate themes were developed from frequently occurring quotes (Eatough and Smith, 2006). These underlying subordinate themes were developed at the researcher's discretion (Brocki and Wearden, 2006), then re-grouped to form broader, superordinate themes. To ensure that the themes still reflected the verbatim text, illustrative quotes were also highlighted (Campbell and Morrison, 2007). The use of qualitative analytical software such as NVivo was considered, however, the researcher wanted to become extra familiar with the transcripts, hone in their own analytical skills and so opted to carry out IPA by hand.

Evaluating qualitative analysis

Lincoln and Gruba (1985) provided criteria to help assess the quality of the qualitative analysis. Credibility was achieved through communicative validation (Steinke, 2004). All students received a condensed version of the results to give them the opportunity to check the accuracy of the data and give any comments. The feedback from students was highly positive and all felt that the results were written in a way to accurately reflect their individual views as well as the wider issues faced by gifted and talented students with co-occurring learning disabilities. Sample quotes have been included in the final paragraph of this paper. Confirmability was achieved by explaining the data collection and analysis procedures to an external auditor (Flick, 2009), who was a postgraduate student in the department. They also gave helpful and positive feedback regarding how the proposed study was to be carried out. Coherence (Holloway and Todres, 2003) was achieved by shaping the results and discussion into a narrative, to make it easy to understand how the overall research question and sub-research questions had been explored.

Results and Discussion

Theme 1: Everyday life

The aspects of everyday life affected by the learning disabilities reported by the students were consistent with the commonly found characteristics in the literature. In the current study, gifted and talented students with dyspraxia spoke of trouble with time management and organisation of thought. Gifted and talented students with dyslexia and gifted and talented students with dyspraxia reported trouble with constructing essays and note-taking, and as expected, gifted and talented students with ASD did not enjoy overwhelming social situations (Nicpon, Doobay and Assouline, 2010).

Gifted and talented students with dyslexia feared that their reading and writing difficulties would impact on the written parts of university applications. This may put them off applying, meaning that they miss out on the opportunities which higher education could provide for them. Conversely, gifted and talented students with ASD felt that their dual status would give them an advantage in applying for jobs. Their fears were more related to the social aspects of the application process such as securing references. This further highlights an aspect which has been under-researched – the different ways in which gifted and talented students with co-occurring learning disabilities need to be supported when looking for employment opportunities.

It was positive that all the students had such high future career aspirations. They listed aspirations which were diverse, from becoming a senior engineer to pursuing acting. This supports Gardner's (1985) Theory of Multiple Intelligences, which propelled the view that high ability is not constrained to the core academic areas but can include musical, spatial and linguistic abilities.

Theme 2: Extra activities

In a previous study conducted by Nicpon, Doobay and Assouline (2010), gifted and talented students with ASD gave lower self-reported social skills scores than their parents and teachers. Acknowledging this, it was still positive that in the current study, gifted and talented students with ASD were aware that they

may not be as socially engaged as their peers, but wanted to integrate themselves. They liked social activities where there was a defined goal or a shared interest (such as anime, graphic novels, writing). This strengths-based approach may also work particularly well given their creative abilities.

Theme 3: Social development

Bullying was a problem for the gifted and talented students with dyspraxia. They had been called names or excluded because they were not as good at sports and because they were clumsy. This concurs with the findings of previous studies which have shown that students with dyspraxia may be at a particular risk of bullying as others may notice their awkward body movements. They did have friends but felt stigmatised by others in secondary school as they had PE lessons. As illustrated by the previous literature, stigma is often born out of the cognitive discrepancies between the perception of someone's identity and their actual identity.

In the current study, gifted and talented students with co-occurring learning disabilities had positive self-esteem and were confident in their own abilities. This current finding can also be compared to Assouline, Foley-Nicpon, and Whiteman (2010)'s finding that gifted and talented students with co-occurring learning disabilities generally have high self-esteem, however, this is lower than has been found with students who are gifted and talented without learning disabilities. Closely related to social development is the support which the students have had, have lacked and wish to have.

Theme 4: Support

Mentoring programmes may benefit gifted and talented students with co-occurring learning disabilities transitioning from secondary school to university, or from university to the world of work. The findings of the current study support previous studies who have suggested that mentors may buffer against anxiety and other mental health issues.

A key finding which sets the current research apart from the existing literature was the exploration of the unique collegiate system within a university. Students at this university had support within their course, their university and their college. Huber (2007) had previously worked with ten gifted and talented students with ASD. She found that only four of the ten had received support for their gifted and talented status while nine had received learning support. This showed inconsistency in support for each of the labels.

Overall, it was clear that the students had help at home both academically and socially. They raised the issue of parent support groups, particularly for parents of gifted and talented students with dyspraxia, as they were the least supported.

Generally, very positive comments were made about the technological support that students received. In many cases, they actually felt that they were provided with more than they could use. Laptops, software and hand-held spellcheckers were all offered as contemporary research had also found (Brunswick, 2012; Gregg, 2012). Tablets were mentioned as a possible alternative to laptops to aid studying for exams or completing coursework. They could offer a cheaper alternative to laptops, may be more convenient for taking to class and could change students' perceptions of the way in which they can work.

Theme 5: Identification

The students felt that their high ability sometimes masked their learning disability. This complements the literature which puts across the view that gifted and talented students with co-occurring learning disabilities can appear average due to uneven performance across the curriculum (Ruban, 2005). Furthermore, teachers' lack of awareness that students with high abilities may also exhibit the traits of learning disabilities was reported. This is concurrent with literature that highlights that the experiences which are contributed to by abilities and disabilities can be difficult to tease apart (Flanagan, Alfonson and Mascolo, 2011). Students themselves need to be part of the process of picking up characteristics of learning disabilities. This may aid earlier identification if the students feel that what they have heard about learning disabilities resonates with them. Assemblies or incorporation of such issues into PSHE may be one way to do this. Educating teachers, support staff and other higher education staff may also help. In the current study, some teachers perceived gifted and talented students with co-occurring learning

disabilities to be lazy when the students actually said they were just in need of a challenge. Extension activities in the classroom or extra reading at university may provide this.

Theme 6: Underachievement

It has been noted previously by researchers such as Vespi and Yewchuk (1992) that being gifted and talented does not serve as a protective factor when dealing with the social and emotional aspects of being both gifted and talented and having a co-occurring learning disability. Comparable to the students in the current study, the boys in Vespi and Yewchuk's (1992) study felt that they did not associate as well with their peers and preferred to befriend older students. Underachievement in milder forms was also often mentioned such as performing uncharacteristically poorly on exams. This raises the question of what mechanisms prevent mild underachievement from becoming more severe. It may be that the interplay between the themes centred upon underachievement, extra activities and support mean taking part in master classes, summer schools, parental support and teaching support are all important, particularly for this group of students. These students may set themselves high goals and face greater disappointment if they do not achieve them. This may lead to withdrawal from the education system altogether. Steps should be taken to ensure that gifted and talented students with co-occurring learning disabilities are given every opportunity to reach their full potential and that they are encouraged to gain attention in a positive way.

Theme 7: Mental health issues

The students in the current study often cited some unusual behaviour (e.g. aggression) which they exhibited when they were younger whereas more recently, they had been battling anxiety and/or depression. One particular study by Assouline, Foley-Nicpon and Whiteman (2010) found that gifted and talented students with a specific learning disability had displayed unusual behaviour, hyperactivity and aggression. The students in the current study were pro-active in trying to address their problems rather than avoiding them, which again mirrors the findings of prior studies in this area (Coleman, 1992). However, in the current study, males were not as forthcoming as females. It may be that different ways of targeting male university students to help them contact mental health support services are needed to encourage their attendance.

Theme 8: Suggestions for helping gifted and talented students with co-occurring learning disabilities

The first main suggestion was to try and incorporate more awareness of learning disabilities into schools and universities. A suggestion to raise awareness could be to invite alumni to speak in secondary schools about their experiences. The school could also create case study profiles and display these in the learning support room for students to read about.

The second main suggestion included practical tips for coping with their unique dual status. Gifted and talented students with dyslexia spoke of reading techniques that they had picked up. Gifted and talented students with dyspraxia also hinted that keeping objects in the same place helped with organisation. Attending workshops on planning and time management may also prove to be useful for gifted and talented students with dyspraxia. Gifted and talented students with ASD used mnemonics and diagrams to help with revision, as similarly to their counterparts with dyslexia; they enjoyed exploiting their visual abilities. These findings have built upon previous studies, for example, one in particular carried out by Coleman (1992). In Coleman's (1992) study, students rated themselves on organisation, reading speed and handwriting difficulties. Coleman's (1992) students were better at problem-solving rather than avoiding situations. A criticism of this previous study was that university students and females were not involved, whereas the current study did involve these and a greater depth of information about specific coping strategies was elicited.

Limitations of the current study

As with any empirical study, it is important to reflect upon the study and acknowledge the key limitations. Despite the numerous strengths of the current study, three limitations are acknowledged.

Firstly, the current study did not have a control group of 'gifted and talented'-only or 'learning-disabled' only students to compare against the experiences of gifted and talented students with co-occurring learning disabilities. Recruiting students and the interviews themselves were time-consuming. Therefore, all efforts were focussed on trying to recruit and interview as many gifted and talented students with co-

occurring learning disabilities as possible. This is problematic as direct comparisons between students who are gifted and talented, those with learning disabilities and students with both were not possible.

Secondly, it may be the case that the students in the current study are over-represented by those who have experienced success. The views expressed may only be relevant to students similar those in the current study who would be willing to voluntarily help in studies such as this, who may be attending generally good secondary schools and top universities. Yet, the study may not speak to the experiences of gifted and talented students with co-occurring learning disabilities who were not as successful or for instance, those who have become involved with the criminal justice system.

Thirdly, this study also shares a frequent, potential problem associated with interviews - social desirability bias. It is possible that the students interviewed only gave opinions to be seen in a better light. However, from conducting the interviews, it appeared as though the students genuinely wanted to help inform future practice and provision for students similar to them.

Future Research Recommendations

To build on the current study's findings, there are a number of lines of enquiry which could be followed up in future studies to advance our understanding of this area. The current study could be extended by including a control group of 'gifted and talented-only' students or 'learning disabled-only' students or indeed both. This would add greater depth to understanding how gifted and talented students with co-occurring learning disabilities may be similar or different to gifted and talented students and students with learning disabilities alone.

The study could be taken further by interviewing parents, teachers and friends of gifted and talented students with co-occurring learning disabilities. It would be interesting to see where their views overlap. In the case of gifted and talented students with ASD, parents and teachers may be aware of issues that perhaps the students are not as self-aware about.

The inclusion of university students in the current study was advantageous as they also had experience of secondary school. This meant that linear, life experience comparisons could be made in terms of how school differed to university. A future study could capitalise on this advantage and opt to conduct two interviews at two different time points – one in the final year of secondary school and a follow-up one when the student was at university.

A future study could aim to recruit students who may have not achieved success in the educational system. This would be difficult but may be important for finding out about the experiences of students who feel 'failed by the system'. The current study could be extended upon by speaking to students who may have dropped out and are now studying elsewhere, working. It may also be of interest to speak to young offenders and/or prisoners.

Aspects of the British education system may help inform countries where there is not much support for gifted and talented students with co-occurring learning disabilities. Similarly, there could be lessons to be learned from countries such as America where there is a lot of emphasis on gifted and talented education or countries in the East (for instance, Singapore) where high ability is particularly encouraged. Conducting research in collaboration with other countries may help with furthering understanding of gifted and talented education and learning disabilities, as both are universal constructs.

Concluding Comments

At present, there is a lack of empirical research to back up the recommendations reported and there are very few examples of studies which have directly compared the experiences of gifted and talented students with different co-occurring learning disabilities. It is likely that there is no definitive answer about exactly how to provide for this unique group of students. However, what it has revealed may be helpful to these students, their families, their teaching staff and other professionals.

General practical tips taught to students as well as individual coping strategies to aid academic and personal development have been outlined. The study also emphasized that extra activities over and above the curriculum are excellent ways of allowing students to fill in gaps in knowledge or to be challenged,

both of which are positive for this group. It was also revealed that gifted and talented students with co-occurring learning disabilities are capable of having friends and mixing well with peers of all abilities; however, they can be at risk of bullying and social isolation. As well as this, teachers, mentors, family and technology can all be avenues of support and can make the difference between a student who feels like they are capable of achieving anything and one who drops out and feels worthless.

The current study provided a platform for some of the brightest students with hidden disabilities to share their experiences and to reflect on each of their diverse journeys. This in and of itself was a contribution to the education literature, as reflected in students' statements of gratitude:

'Thanks for this summary of results – since we've spoken, I've applied to do my level 3 NVQ in a further education college.' (L4 - male secondary school gifted and talented student with dyslexia)

'Thanks for sending this. You have done a good job of representing these 'twice-exceptional' students, and have really nailed issues surrounding dyspraxia – well done!' (L6 - male university gifted and talented student with dyspraxia)

'I was happy to take part. It felt a bit like therapy actually, was good to talk about it, especially as given my situation, this doesn't come naturally! Thank you for giving me the opportunity to take part.' (L16 - male university gifted and talented student with Asperger's syndrome).

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